

201-15444B

Addendum

Robust Summaries for

Trans-1,2-Dichloroethylene

CAS Number 156-60-5

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Existing Chemical ID: 156-60-5
CAS No. 156-60-5

Producer Related Part
Company: PPG Industries, Inc.
Creation date: 25-OCT-2002

Substance Related Part
Company: PPG Industries, Inc.
Creation date: 25-OCT-2002

Printing date: 28-JUN-2004
Revision date:
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Number of Pages: 4

Chapter (profile): Chapter: 3.5
Reliability (profile): Reliability: without reliability, 1, 2, 3, 4
Flags (profile): Flags: without flag, confidential, non confidential, WGK
(DE), TA-Luft (DE), Material Safety Dataset, Risk
Assessment, Directive 67/548/EEC, SIDS

3.5 Biodegradation

Type: aerobic
Inoculum: activated sludge
Concentration: 6 mg/l
Contact time: 28 day(s)
Degradation: = 8 % after 28 day(s)
Result: under test conditions no biodegradation observed
Control Subst.: Benzoic acid, sodium salt
Kinetic: 28 day(s) = 66 %
Deg. product: not measured

Method: OECD Guide-line 301 D "Ready Biodegradability: Closed Bottle Test"
Year: 2004
GLP: yes
Test substance: other TS

Remark: All test material preparations were carried out as quickly as possible with the minimum amount of shaking/ultrasonification being used due to the possible volatile nature of the test material.

Result: The oxygen depletion of the inoculated control did not exceed 1.5 mg O₂/l after 28 days, the residual oxygen concentration in the test bottles remained at 4.8 mg O₂/l or greater in all test vessels, and the difference between the extremes of replicate oxygen depletion values at the end of the test was less than 20% in all vessels, thereby satisfying the validation criteria.

The test material attained 8% degradation after 28 days and therefore, can not be considered as readily biodegradable. Examination of the degradation curve for the toxicity control showed that the toxicity control attained in excess of 25% degradation by Day 14 of the study, thereby confirming that the test material was not toxic to the sewage treatment micro-organism used in the study. After 28 days the toxicity control had attained 33% degradation. The standard material, sodium benzoate, attained 66% degradation after 28 days, thereby confirming suitability of the test method and culture conditions.

Test condition: The test material, at a concentration of 6.0 mg/l, was exposed to sewage treatment micro-organisms with culture medium in sealed vessels in the dark at a temperature of 20 degree C for 28 days. The test material was dissolved directly in culture medium. A standard material, sodium benzoate at a concentration of 3.0 mg/l was included in the test. A toxicity control, containing a concentration of 6.0 mg test material/l and 1.5 mg sodium benzoate/l, was prepared in order to assess any toxic effect of the test material on the sewage treatment micro-organisms used in the study. In addition, a control consisting of inoculated culture medium was included in the study.

Test media were inoculated with sewage treatment micro-organisms at a rate of 1 drop of inoculum per liter. The test media were transferred by siphon to BOD bottles, which were firmly stoppered to exclude all air bubbles. Sufficient bottles were prepared to

allow a single oxygen determination per bottle with duplicate bottles for each test medium at each sampling occasion. The BOD bottles were incubated in a temperature controlled water bath at $20 \pm 0.2^\circ\text{C}$. The degradation of the test material was assessed by the determination of the amount of oxygen consumed. Dissolved oxygen concentrations for each test medium were determined, in duplicate on days 0, 3, 6, 9, 12, 15, 18, 21, 24, and 28 by means of a Yellow Springs oxygen meter and BOD Probe. The dissolved oxygen depletion values and the mean percentage degradation values for each replicate flask for the test material, standard material and toxicity control for each time period were calculated.

Test substance: The purity of the test material was 99.9% with ~10 ppm stabiliser.

Reliability: (1) valid without restriction
28-JUN-2004

(1)

9. References

date: 28-JUN-2004
Substance ID: 156-60-5

(1) Mead, C. (2004) SafePharm Laboratories Limited, unpublished project report 1014/184.